

L62 ANSWER 14 OF 29 HCAPLUS COPYRIGHT 2007 ACS on STN

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TITLE: Preparation of 2-O- β -D-galactopyranosyl-L-ascorbic acid

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SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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AB 2-O- β -D-galactopyranosyl-L-ascorbic acid (I) is prepared at low cost and in good yield. by reaction of 5,6-isopropylidene-L-ascorbic acid with β -galactosyl-containing compound in the presence of β -galactosidase. A food or beverage, a medicament for sensitive diseases, and a cosmetic contain I as the active ingredient. I exhibits excellent stability, in vivo shows sufficient activity for vitamin C, and is useful as a stabilizer, quality improver, antioxidant, physiol. active agent, and UV-absorbent. Thus, 1.25 g 5,6-O-isopropylidene-L-ascorbic acid and 30 g lactose were dissolved in 100 mL H₂O and after adjusting the pH to 4.5, β -galactosidase derived from Aspergillus oryzae was added at 7.5 mg/Ml. The resulting mixture was allowed to react at 40° for 60 min followed by boiling the mixture for 5 min for deactivating the enzyme and purification a column of activated charcoal to give 2.08 mg I. A soft drink containing grape fruit juice and I 0.1% was stored at 40° for 120 days and the residual ratio of I was 97.3% vs. 70.5, and 30.1% for 6-O-stearyl-L-ascorbic acid and L-ascorbic acid, resp. A diet containing I showed same activity as that of vitamin C for increasing body weight of vitamin C-deficient rats. Chewing gum, tooth paste, troche, mouth wash, and cream containing I were prepared

IT 160009-30-3P, O- β -D-Galactopyranosyl-L-ascorbic acid

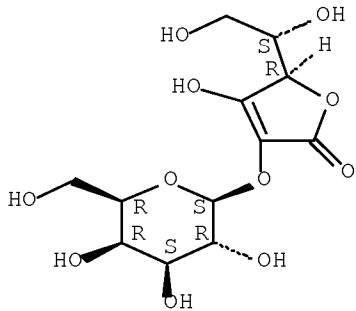
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); FFD (Food or feed use); MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of O- β -D-galactopyranosyl-L-ascorbic acid as stable pro-vitamin C and antioxidant for food, beverage, dentifrices, and cosmetics)

RN 160009-30-3 HCAPLUS

CN L-Ascorbic acid, 2-O- β -D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IC ICM C07H017-04
 ICS A23L001-30; A23L002-26; A61K007-00; A61K007-16; A61K007-42;
 A61K007-48; A61K031-70; C09K015-06; C12P019-60

CC 33-4 (Carbohydrates)
 Section cross-reference(s): 17, 62

IT 9031-11-2, β -Galactosidase
 RL: CAT (Catalyst use); USES (Uses)
 (of *Aspergillus oryzae*, *Lipomyces starkeyi*, *Rhodotorula minuta*, and *Bullera singularis*; catalyst for preparation of O- β -D-galactopyranosyl-L-ascorbic acid by transglycosidation of isopropylideneascorbic acid with galactosyl donor)

IT 160009-30-3P, O- β -D-Galactopyranosyl-L-ascorbic acid
 RL: BAC (Biological activity or effector, except adverse); BPN
 (Biosynthetic preparation); BSU (Biological study, unclassified); FFD
 (Food or feed use); MOA (Modifier or additive use); THU (Therapeutic use);
 BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of O- β -D-galactopyranosyl-L-ascorbic acid as stable pro-vitamin C and antioxidant for food, beverage, dentifrices, and cosmetics)